

# RECENT FISHERY PUBLICATIONS

## FISH AND WILDLIFE SERVICE PUBLICATIONS

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- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
- FL - FISHERY LEAFLETS.
- SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- SSR.- FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

Number	Title
FS-3975	- Gulf Coast Shrimp Data, May 1965, 21 pp.
FS-3984	- Michigan, Ohio & Wisconsin Landings, September 1965, 4 pp.
FS-4002	- Pacific Coast Fisheries, 1964 Annual Summary, 12 pp.
FS-4005	- Fish Meal and Oil, November 1965, 2 pp.
FS-4008	- Gulf Coast Shrimp Data, June 1965, 22 pp.
FS-4009	- Gulf Coast Shrimp Data, July 1965, 19 pp.
FS-4012	- Alabama Landings, October 1965, 3 pp.
FS-4014	- Massachusetts Landings, July 1965, 9 pp.
FS-4015	- Massachusetts Landings, August 1965, 10 pp.
FS-4016	- Louisiana Landings, November 1965, 3 pp.
FS-4017	- Mississippi Landings, October 1965, 3 pp.
FS-4019	- New Jersey Landings, November 1965, 3 pp.
FS-4021	- New York Landings, October 1965, 4 pp.
FS-4022	- New York Landings, November 1965, 4 pp.
FS-4023	- Shrimp Landings, August 1965, 5 pp.
FS-4024	- Gulf Coast Shrimp Data, August 1965, 19 pp.
FS-4027	- Maine Landings, November 1965, 4 pp.
FS-4028	- Rhode Island Landings, October 1965, 3 pp.
FS-4029	- Texas Landings, November 1965, 3 pp.
FS-4032	- Shrimp Landings, September 1965, 5 pp.
FS-4034	- Fish Sticks, Fish Portions, and Breaded Shrimp, October-December 1965, 3 pp.
FS-4038	- Fish Meal and Oil, December 1965, 2 pp.

p. No. 756 - Ocean Clam Survey off U. S. Middle Atlantic Coast--1963.

p. No. 757 - Identification of Species in Raw Processed Fishery Products by Means of Cellulose Polyacetate Strip Electrophoresis.

p. No. 758 - A Method of Forecasting the Relative Abundance of Northern Shrimp (*Pandalus borealis* Kr.) in Maine Waters.

p. No. 759 - Equipment Note No. 19--Trawl Cod-End Closing Device.

FL-587 - Graduate Educational Grants in Aquatic Sciences, 5 pp., illus., October 1965.

SSR-Fish. No. 523 - Southeastern Alaska Stream Catalog for Regulatory District Nos. 5, 6, 7 and 8, by Carl Rosier, Norm Johnston, and Russell F. Orrell, 433 pp., August 1965.

THE FOLLOWING PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIAL OFFICE MENTIONED.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, January 1966, 12 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif. 90731.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, sardines, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; prices for fish meal, oil, and solubles; for the month indicated.

California Fishery Market News Monthly Summary, Part II - Fishing Information, January 1966, 8 pp., illus. (U. S. Bureau of Commercial Fisheries, Tuna Resources Laboratory, P. O. Box 271, La Jolla, Calif. 92038.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, January 1966, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, P. O. Box 447, Hampton, Va. 23369.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chincoteague, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery products and shrimp production; for the month indicated.

New England Fisheries--Monthly Summary, January 1966, 22 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston, Mass. 02210.) Review of the principal New England fishery ports. Presents data on fishery landings by ports and species; industrial fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery

landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, Provincetown), Maine (Portland and Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and Boston Fish Pier and Atlantic Avenue fishery landings and ex-vessel prices by species; for the month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--December 1965, 21 pp. (Market News Service, U. S. Fish and Wildlife Service, 346 Broadway, New York, N. Y. 10013.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, including both the salt- and fresh-water sections; imports entered at New York customs district; primary wholesalers' selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks and Stonington, Conn.; for the month indicated.

Production of Fishery Products in Selected Areas of Alabama, Florida, Louisiana, Mississippi, Texas, 1965 (Preliminary), by E. J. Barry, 25 pp., February 1966. (Fishery Market News Service, U. S. Fish and Wildlife Service, 600 South St., New Orleans, La. 70130.) Includes statistical tables showing total fishery products landings; crab meat production by areas and months; menhaden landings and production of fish meal, oil, and solubles. It also gives data on fishery imports through the New Orleans and Morgan City, La., Customs Districts, Port Isabel-Brownsville, and Houston, Tex., Mobile, Ala.; and Miami, Fla.; and LCL express shipments from New Orleans 1965 by months and destination. Also included are tables showing monthly range of wholesale prices of fishery products on the New Orleans French Market; Gulf states weekly shrimp and oyster pack, 1965; Gulf states canned shrimp, oyster, and crabmeat pack by years--five year-average; and fishery products market classification in Gulf areas--Gulf states.

Seattle--Landings, Receipts, and Values of Fishery Products, 1965 (Preliminary), by V. J. Samson, 19 pp., January 31, 1966. (Fishery Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Building, Seattle, Wash. 98104.) Reviews Pacific Northwest fisheries trends and their effect upon Seattle fishery receipts for 1965. Contains statistical tables on landings by U. S. halibut fleet; Seattle's landings and receipts of fishery products; carload and truckload shipments of fishery products by months; imports of canned fishery products; receipts of Alaska canned fish and shellfish; and names, classifications, and approximate standards as used on Seattle Wholesale Market.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, January 1966, 7 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl receipts reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia

via rail, motor truck, shipping lines, and ex-vessel landings; and in ports from other countries through Washington customs district; for the month indicated.

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The Progressive Fish-Culturist, vol. 27, no. 3, July 1965, pp. 113-176, illus., processed, single copy 25 cents. Some of the articles are: "Survey, reporting and certification of diseases in fish production," by S. F. Snieszko; "Lake trout fin-clipping rates at two national fish hatcheries," by Merryll M. Bailey.

## MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE ORGANIZATION OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

### ALGAE:

"Control of protein level of algae, *Chlorella*," by Frieda B. Taub and A. M. Dollar, article, *Journal of Food Science*, vol. 30, Mar.-Apr. 1965, pp. 359-364, printed. Institute of Food Technologists, 176 N. Adams St., Chicago, Ill. 60603.

"The marine algae of the Bermuda platform," by J. J. Frederick, abstract, *Dissertation Abstracts*, vol. 25, no. 8, 1965, p. 4371. University Microfilms, Inc., University of Michigan, 313 N. 1st St., Ann Arbor, Mich. 48103.

"La utilización de las algas marinas como alimento suplementario del ganado" (The use of marine algae as cattle-feed supplement), article, *Industrias Pesqueras*, vol. 39, no. 919, August 1965, p. 353, illus., printed in Spanish, single copy 50 ptas. (about US\$0.85). Industrias Pesqueras, Apartado 35, Policarpo Sanz, 21-2, Vigo, Spain.

### AMINO ACIDS:

"Amino acid requirement of salmon," article, *Nutrition Reviews*, vol. 23, January 1965, pp. 21-24. The Nutrition Foundation, Inc., 99 Park Ave., New York, N. Y. 10016.

### ANTIOXIDANTS:

"Effect of certain water-soluble antioxidants on the preservation of frozen sturgeon," by D. D. Bakzevich and V. U. Irmatova, article, *Chemical Abstracts*, vol. 62, February 15, 1965, Abstract No. 4520c, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

"The use of antioxidants in fishery products," article, *Chemistry and Industry*, no. 14, April 1965, pp. 600-601, printed. Society of the Chemical Industry, 14 Belgrave Sq., London SW1, England.

### BACTERIOLOGY:

"Method for detecting and isolating proteolytic marine bacteria," by Joseph R. Merkel, article, *Journal of Bacteriology*, vol. 89, Mar. 1965, pp. 903-904, printed. Williams & Wilkins Co., 428 E. Preston St., Baltimore, Md. 21202.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

Prevention of type E Clostridium Botulinum toxin formation in smoked whitefish chubs with tylosin lactate," by J. M. Sheneman, article, *Journal of Food Science*, vol. 30, Mar.-Apr. 1965, pp. 337-343, printed in *Journal of Food Technologists*, 176 N. Adams St., Chicago, Ill. 60603.

#### BIOCHEMISTRY:

Die biochemischen und bakteriellen Ursachen der Bombagen von Marinaden und die Aspekte ihrer Verhinderung" (The biochemical causes of nodules on marinades (of fish meat) and the aspects of their prevention), by V. Meyer, article, *Microbial Inhibitors in Food*, 1964, pp. 221-229, printed in *German with English summary*. Almqvist and Wiksell, Stockholm, Sweden.

#### BACTERIOLOGY:

A study of some organisms of public health significance from fish and fishery products," by M. D. Appleman, N. Bain, and J. M. Shewan, article, *Journal of Applied Bacteriology*, vol. 27, no. 1, 1964, pp. 68-77, printed. Wallace and Tierman Ltd. Power Rd. London W4, England.

#### CANADA:

Observations on the milky condition in some Pacific coast fishes," by Max Patashnik, and Herman S. Groninger, Jr., article, *Journal of the Fisheries Research Board of Canada*, vol. 21, March 1964, pp. 335-345, printed. Fisheries Research Board of Canada, Riverside Drive, Ottawa, Canada.

#### CATFISH:

Commercial channel catfish catch studies in the Mississippi River in 1964," by Roger Schoumacher, article, *Iowa Quarterly Biology Reports*, vol. XVII, no. 1, pp. 14-15, processed, April, May, June 1965. State Conservation Commission, Fish and Game Division, East 7th & Court Ave., Des Moines, Iowa 50309.

#### CHEMICAL COMPOSITION:

Formation of ammonia and trimethylamine in Elasmobranch fish," by Michizo Suyama, article, *Chemical Abstracts*, vol. 59, December 9, 1963, Abstract No. 14332F, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

#### CHOLESTEROL:

Cholesterol content and fatty acid composition of the back meat of fishes," by Yaichiro Shimma and Hisako Taguchi, article, *Chemical Abstracts*, vol. 63, August 16, 1965, Abstract No. 4867F, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

#### CLAMS:

Larval Development of a Boring Clam, *Barnea truncata*, by Paul E. Chanley, 5 pp., illus., printed. (Reprinted from *Chesapeake Science*, vol. 6, no. 3, Sept. 1965, pp. 162-166.) Virginia Institute of Marine Science, Gloucester Point, Va. 23062.

#### CONTAINERS:

How can containerization best provide FF (frozen foods) with needed shipping savings? Part I, "article, *Quick Frozen Foods*, vol. 17, Mar. 1965, pp. 129-130, printed. Quick Frozen Foods, 1776 Broadway, New York, N. Y. 10019.

#### CRUSTACEA:

The Caprellidae (Crustacea: Amphipoda) of Virginia, by John C. McCain, 7 pp., printed. (Reprinted from *Chesapeake Science*, vol. 6, no. 3, Sept. 1965, pp. 190-196.) Virginia Institute of Marine Science, Gloucester Point, Va. 23062.

"Comparative serology of North Sea crustacea," by J. M. Denuce and E. Kuhn, article, *Chemical Abstracts*, vol. 59, August 19, 1963, Abstract No. 4304b, printed. American Chemical Society, 1155 16th St. NW. Washington, D. C. 20006.

#### ECOLOGY:

"Ecology of juvenile fishes in Rhode Island estuaries," by M. S. Mulkana, processed. (Reprinted from *Journal of the Mississippi Academy of Sciences*, vol. XI, 1965, pp. 307-308). Gulf Coast Research Laboratory, Ocean Springs, Miss. 39564.

#### ENZYMES:

Digestive Enzymes of the Crystalline Style of *Strombus Gigas* Linne. I. Cellulase and Some Other Carbohydrases, by Shiro Horiuchi and Charles E. Lane, 9 pp., printed. (Reprinted from *Biological Bulletin*, Vol. 129, No. 2, Oct. 1965, pp. 273-281.) Institute of Marine Science, The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami, Fla. 33149.

#### FISHERY RESEARCH:

"On the influence of the fishery upon the population structure of redfish (*Sebastes marinus* L. and *Sebastes mentella* Travin)," by V. P. Sorokin, article, *Journal de Conseil*, vol. 28, no. 3, 1964, pp. 405-409, illus., printed, single copy 20 kroner (about US\$2.90). Andr. Fred. Høst & Fils, Bredgade 35, Copenhagen, Denmark.

Research Briefs, vol. 11, no. 1, June 1965, 54 pp., illus., printed. Oregon Fish Commission, Research Laboratory, Rt. 2, Box 31A, Clackamas, Ore. 97015.

#### FISH MUSCLE:

"Studies of muscle of aquatic animals. 43. Creatine and creatinine contents in fish muscle extractives," by Morihiko Sakaguchi and others, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 30, pp. 999-1002, printed in Japanese. Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

#### FISH OILS:

"Further studies on the Indian sardine oil," by P. V. Kamasastri, and others, article, *Indian Journal of Fisheries*, vol. 9, April 1962, pp. 84-90, printed in English. Ministry of Food and Agriculture of Government of India, New Delhi, India.

#### FISH PUMP:

"Experimental use of fish pumps. IV - Transference of living fish and autopsy of pumped fish," by Chosei Yoshimuta and others, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 30, December 1964, pp. 951-954, printed in Japanese. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

#### FLORIDA:

Fishes Taken in Monthly Trawl Samples Offshore of Pinellas County, Florida, with New Additions to the Fish Fauna of the Tampa Bay Area, by Martin A.

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Moe, Jr. and George T. Martin, 22 pp., printed. (Reprinted from Tulane Studies in Zoology, vol. 12, no. 4, Oct. 11, 1965, pp. 129-151.) Tulane University, P. O. Station 20, New Orleans, La. 70118.

Summary of Florida Commercial Marine Landings, 1964, by Elnita Welch, 79 pp., processed, July 1965. Board of Conservation, Salt Water Fisheries Division, Marine Fisheries Research, Tallahassee, Florida.

#### FLounder:

An Annotated Bibliography of the Winter Flounder Pseudopleuronectes americanus (Walbaum), by Robert W. Topp, 30 pp., printed, 1965, 80 cents. Massachusetts Division of Marine Fisheries, Department of Natural Resources, 15 Ashburton Pl., Boston, Mass. 02208.

#### GENERAL:

A Dictionary of Fishes, 9th Edition, by Rube Allyn, 140 pp., illus., printed, 1965, \$1.50. Great Outdoors Publishers, St. Petersburg 14, Fla.

A Discussion and Selected, Annotated References of Subjective or Controversial Marine Matters, by Kenneth D. Woodburn, Technical Series No. 46, 52 pp., printed, September 1965. Florida Board of Conservation Marine Laboratory, Maritime Base, Bayboro Harbor, St. Petersburg, Fla.

#### INTERNATIONAL COMMISSIONS:

Annual Proceedings, for the year 1964-65, vol. 15, 61 pp., illus., printed, 1965. International Commission for the Northwest Atlantic Fisheries, Dartmouth, N. S., Canada. This is the fifteenth annual report of proceedings of the Commission and is a record of its activities and achievements July 1, 1964, to June 30, 1965. It contains an account of the activities of the Commission's Secretariat and the Fifteenth Annual Meeting, summaries of research carried out in each of the five Convention subareas, a review of possible conservation actions for the Commission area, and a list of scientists and laboratories engaged in the Commission's work.

#### IRRADIATION PRESERVATION:

"Future looks cloudy for irradiated food," article, Chemical and Engineering News, vol. 43, June 21, 1965, p. 32, printed. The American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

"The influence of ante-mortem factors and gamma irradiation on the degradation of 5<sup>1</sup>-ribonucleotides in the muscle of English sole (Parophrys vetulus)," by Enrique J. Guardia and Alexander M. Dollar, article, Journal of Food Science, vol. 30, Mar.-Apr. 1965, pp. 223-227, printed. Institute of Food Technologists, 176 N. Adams St., Chicago, Ill. 60603.

"Irradiation preservation of shellfish," by A. F. Novak and J. A. Liuzzo, article, Transactions of the North American Wildlife and Natural Resources Conference, vol. 29, 1964, pp. 372-382, printed. Wildlife Management Institute, Wire Bldg., 1000 Vermont Ave. NW., Washington, D. C. 20005.

"Post-irradiation survival of Staphylococcus aureus in sea foods," by Bohdan M. Slabyj and others, article, Journal of Food Science, vol. 30, March-April

1965, pp. 344-350, printed. Institute of Food Technologists, 176 N. Adams St., Chicago, Ill. 60603.

#### MACKEREL:

"Studies on muscle of aquatic animals. 45. Variation with season and growth in nitrogenous extractives of mackerel muscle," by Morihiko Sakagruchi and Simidu Wataru, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 31, January 1965, pp. 72-75, printed in Japanese. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

#### MARINE BIOLOGY:

"A temperature controlled salt-water circulating apparatus for developing fish eggs and larvae," by W. E. Fahy, article, Journal du Conseil, vol. 28, no. 3, 1964, pp. 364-384, illus., printed, single copy 20 kroner (about US\$2.90). Andr. Fred. Høst & Fils, Bredgade 35, Copenhagen, Denmark.

#### MARINE PHARMACOLOGY:

"Drugs from the deep," article, News Front, vol. 9, no. 8, October 1965, pp. 30-33. Year, Inc., 21 W. 45th St., New York, N. Y. 10036. The new science of marine pharmacology is penetrating the life-giving secrets of the mysterious world beneath the sea. Antibiotics and pain killers, a "mind drug" and even a possible cancer cure are among the gifts from the sea that may one day revolutionize treatment of human ills.

#### NEW JERSEY:

New Jersey Fish and Game Laws, 222 pp., printed, 1965. Department of Conservation and Economic Development, Division of Fish and Game, 230 W. State Street, P. O. Box 1237, Trenton, New Jersey 08625.

#### OCEAN FARMING:

"Ocean Farming," by V. Loosanoff, article, News Front, vol. 9, no. 8, Oct. 1965, p. 8, illus., printed. Year, Inc., 21 W. 45th St., New York, N. Y. 10036. (Reprinted from Agricultural Engineering, February 1965, pp. 73, 93-97. American Society of Agricultural Engineers, 420 Main St., St. Joseph, Mich.) Discusses the oceans' capacity to supply food and what can be done to increase their present output. Theoretically, it is possible to cultivate forms of salt-water life ranging from fish to algae, but the research is only in its infancy. Of the 10,000 species of salt-water algae, less than 1 percent have been studied thoroughly. Some may turn out to be vital sources of antibiotics, vitamins or other rare substances. Most of all, algae's capacity to convert inorganic substances to protoplasm makes them valuable as high-protein food. Algae eventually may be grown on a large scale in long tubes of transparent plastic, or in shallow, low-cost basins excavated by bulldozers. Shellfish farming, already important in many nations, may be expanded by using shallow ponds or special trays suspended in the ocean. In India, 350 to 1,000 pounds of shrimp per acre have been harvested in a cheaply-made pond during a 5-month season. A 40-acre shrimp pond was built in a U. S. salt marsh for less than \$40 per acre.

#### OCEANOGRAPHY:

"A comparison among selected marine species of an association between sea water temperature and rel-

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relative abundance," by R. L. Dow, article, Journal du Conseil, vol. 28, no. 3, 1964, pp. 425-431, illus., printed, single copy 20 kroner (about US\$2.90). Andr. Fred. Host & Fils, Bredgade 35, Copenhagen, Denmark.

The oceanographic research program at the Gulf Coast Research Laboratory and some results of recent investigations," by K. L. Drennan and T. G. Berry, processed. (Reprinted from Journal of the Mississippi Academy of Sciences, vol. XI, 1965, p. 1732). Gulf Coast Research Laboratory, Ocean Springs, Miss. 39564.

Predictor Equations for Beach Processes and Responses, by W. Harrison, N. A. Pore and D. R. Tuck, Jr., 7 pp., printed. (Reprinted from Journal of Geophysical Research, vol. 70, no. 24, Dec. 1965, pp. 6103-6109.) Virginia Institute of Marine Science, Gloucester Point, Va. 23062.

#### STERS:

Breeding and gonadal cycle of oysters in Loch Ryan, Scotland," by R. H. Millar, article, Journal du Conseil, vol. 28, no. 3, 1964, pp. 432-439, illus., printed, single copy 20 kroner (about US\$2.90). Andr. Fred. Høst & Fils, Bredgade 35, Copenhagen, Denmark.

Following reprints available from Virginia Institute of Marine Science, Gloucester Point, Va. 23062:

Apparatus for Holding Individual Oysters Under Equal Water Flows, 2 pp., illus., printed. (Reprinted from Limnology and Oceanography, vol. 10, no. 4, Oct. 1965, pp. 605-606.)

Conversion of Estradiol-17 $\beta$  by Sperm Preparations of Sea Urchins and Oysters, by Ralph R. Hathaway, 5 pp., printed. (Reprinted from General and Comparative Endocrinology, vol. 5, no. 5, Oct. 1965, pp. 504-508.)

#### PESTICIDES:

Food safety program: endrin monitoring in the Mississippi River," by Arthur F. Novak and M. R. Ramachandra Rao, article, Science, vol. 150, no. 3704, Dec. 24, 1965, p. 1732, printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C. 20005.

Pesticides in Sea Water and the Possibilities of Their Use in Mariculture, by Victor L. Loosanoff, 11 pp., printed, 1965. (Reprinted from Research in Pesticides, pp. 135-145, 1965.) Academic Press Inc., 125 E. 23rd St., New York, N. Y. 10010.

#### PHILIPPINES:

Establishing a Business in the Philippines, OBR 65-89, 16 pp., printed, December 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, and by Department of Commerce field offices in principal cities in the United States.)

#### RESERVATION:

The microflora of semi-preserved fish products and the use of chemical preservation," by B. V. Jorgen-

sen and H. A. Bak Henriksen, article, Microbial Inhibitors in Food, 1964, pp. 231-243, printed. Almqvist and Wiksell, Stockholm, Sweden.

#### QUALITY:

"Discoloration of marine animal products. Part II," by Masamichi Toyomizu and Yukio Tomiyasu, article, Chemical Abstracts, vol. 59, December 9, 1963, p. 14495b, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

#### SALMON:

Active and Passive Immunization of Certain Salmonid Fishes Against Aeromonas Salmonicida, by K. D. Spence and J. L. Fryer, 9 pp., printed. (Reprinted from Canadian Journal of Microbiology, vol. 11, no. 397, 1965, pp. 397-405.) Oregon Fish Commission, Research Laboratory, Rt. 2, Box 31A, Clackamas, Ore. 97015.

Informational Leaflets, processed, available from Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska 99801:

Arctic-Yukon-Kuskokwim Area Salmon Fishing History, by S. Pennoyer, K. Middleton, and M. E. Morris, Jr.,

Frazer Lake System Spawning Ground Surveys, 1964, No. 72, by William R. Meehan, Martin F. Eaton, and James A. Gohr, 26 pp., illus.

Status of the Cook Inlet-Resurrection Bay Commercial Salmon Fishery, 1965, by James Reardon, No. 69, 39 pp.

#### SHARKS:

"Distribution pattern of sharks along setline," by Hiroshi Maeda, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 29, November 1963, pp. 996-999, printed in Japanese. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minatoku, Tokyo, Japan.

" Sleeper sharks (Somniosus pacificus) off Trinidad, California, with life history notes," by D. W. Gotshall and Tom Jow, article, California Fish and Game, vol. 51, no. 4, Oct. 1965, pp. 294-297, illus., printed, single copy \$0.75. Office of Procurement, Documents Section, P. O. Box 1612, Sacramento, Calif. 95807.

#### SHELLFISH:

"Report on fish and other marine products," by Menno D. Voth, article, Journal of the Association of Official Agricultural Chemists, vol. 48, February 1965, pp. 123-124, printed. P. O. Box 540, Benjamin Franklin Station, Washington, D. C. 20044.

#### SHRIMP:

"On the occurrence of the deep-water prawn, Penaeopsis rectacutus (Spence Bate) off the Kerala Coast," by C. V. Kurian, article, Current Science (India), vol. 33, no. 7, 1964, pp. 216-217, printed. Current Science Association, Bangalore, India.

A Review of Trawling Explorations on the Alaska Shrimp Resource, by James B. Beals, Informational

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Leaflet 68, 47 pp., processed, Oct. 1965. Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska 99801.

"Shrimp nursery," by Clarence P. Idyll, article, National Geographic, vol. 127, May 1965, pp. 636-659, illus., printed. National Geographic Society, 17th & M Sts. NW., Washington, D. C. 20036.

"Storage characteristics of frozen prawns in relation to quality assessment," pp. 58-70, "Studies on the quality of dry prawn," pp. 1-6, "Studies on ice-stored prawns," by T. K. Govindan, pp. 7-15, articles, Indian Journal of Fisheries, vol. 9, April 1962, printed. Ministry of Food and Agriculture of Government of India, New Delhi, India.

#### SOUTH AFRICA REPUBLIC:

Fishing Industry Research Institute (Eighteenth Annual Report of the Director, January-February 1964), 99 pp. illus., printed, 1964. Fishing Industry Research Institute, University of Cape Town, Rondebosch, South Africa. Discusses the part played by the Fishing Industry Research Institute of Cape Town in solving factory production problems and in research on the scientific background of fish processing. Outlines investigations undertaken by the Institute on fresh and frozen fish; salted and dried fish; fish canning; use of fish flour as the basis of new food products; fish meal; and stickwater preservation. The primary emphasis of research was on fish meal and fish oils; variation of fish meal composition during production; moisture distribution vs. particle size of fish meals; methods of estimating the digestibility of fish meals; available lysine in fish meal; oxidation of fish oils; drying of fish oils with silica gel; and apparatus for spontaneous heating tests. Also discusses routine chemical and bacteriological analyses as well as routine investigations on frozen fish; frozen rock lobster tails for export; canned fish and rock lobster; fish meal sampling and supervision of loading; fish meal bags and tomato paste.

#### SOUTH CAROLINA:

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spawning channel, McNary Dam spawning channel, Rocky Beach spawning channel; Yakima Indian dip net fishery; shellfish--razor clam, ocean pink shrimp, Dungeness crab, oysters, Willapa Bay programs and projects, fish farms; enforcement of fisheries patrol; engineering and construction; stream improvement and hydraulics; hatchery division--hybrid chum-pink studies, fish disease investigations, fish feeding, egg takes at individual hatcheries, adult escapement to hatchery racks, fish planted from hatcheries summary of hatchery plantings, fish planted by major watersheds; fisheries news log; summary of Director's orders; fish protective facilities and capital construction projects.

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**RED COLOR OF SHELLFISH STUDIED BY ALASKAN LABORATORY**

Color is probably the most important criteria in eye appeal in a food market. Housewives want green peas, red salmon, pink shrimp, and scarlet crab. Certain colors count; a few are forbidden. So color has become an important factor in marketing fish and shellfish. So say chemists of the U. S. Bureau of Commercial Fisheries Technology Laboratory at Ketchikan, Alaska.

Trying to learn how to retain the natural red color in Alaskan shrimp and crab during processing is one of the current projects of the Ketchikan Laboratory. As the nature of the carotenoid pigments causing red and orange colors is not fully understood, the problem is difficult.

The purpose of the Technology Laboratory at Ketchikan is to assist processors to turn out a quality product as well as an economic one. The laboratory employs 5 chemists and 3 assistants. It has been in operation since 1940. It operates under the regional office of the U. S. Bureau of Commercial Fisheries in Juneau, Alaska.

## YEAR-LONG STUDY OF GULF STREAM

A year-long study of the Gulf Stream--the most extensive since Benjamin Franklin first studied the mysterious "ocean river" nearly two centuries ago--was started early in July 1965. Two oceanographic research vessels launched the lengthy and painstaking study. They left Norfolk, Va., and Savannah, Ga. With the latest devices of modern science, an effort will be made to unlock the secrets of the massive but elusive stream in the Atlantic Ocean. The vessels are the Explorer and the Peirce, two vessels of the "white fleet" of the Coast and Geodetic Survey, U. S. Department of Commerce.

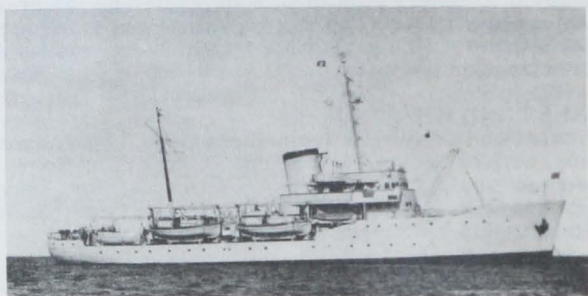


Fig. 1 - U. S. Coast and Geodetic Survey oceanographic research vessel Explorer.

Participating in the undertaking, as the study continues, will also be Weather Bureau aircraft. Other participants will be the Massachusetts Institute of Technology, Woods Hole (Mass.) Oceanographic Institution, the University of Rhode Island, Columbia University, the University of Miami, and the Lerner Marine Laboratory at Bimini, in the Bahamas. These will furnish scientists or vessels, in some instances both, for the study. Additional organizations may join in later.

The ambitious undertaking is designed to enable oceanographers to predict changes in the strength and flow of the constantly-changing stream. Out of this may come better predictions of weather over the large area affected by the Stream and of fishery conditions.

The study's project director describes the Gulf Stream as "the major oceanographic phenomenon closest to the U. S." Commenting on the scope of the program, he said: "The Gulf Stream must be clearly understood so that its role can be evaluated in weather modification, fisheries utilization, and commerce. The Stream is apparently quite variable, not only in its speed, but in its location. The Stream's major axis between the Straits of Florida and Cape Hatteras, N. C., is known to migrate closer and farther from the coast. Northeast of Cape Hatteras, the Stream is not a straight flowing 'river in the sea,' but often forms great looping meanders. It is known that these meanders change position with time but it is not known how fast they do so or what the underlying causes might be."

The oceanographers will concentrate their study off Miami, Fla.; in the area between the Straits of Florida and Cape Hatteras off Charleston, S. C.; and in the North Atlantic from Cape Hatteras out into the ocean to the area south of Nova Scotia.

The Explorer's task will be to map the Gulf Stream in the North Atlantic to determine whether there is a regular pattern to changes in the Stream's meanders.

The Peirce, which is based at Savannah, has been assigned the task of determining the volume and pattern of water carried by the Gulf Stream off Charleston, S. C.

When the study is completed science will have a much better understanding of the great stream which, when it leaves the Straits of Florida, is like a mighty river 40 miles wide, 2,000 feet deep, discharging one hundred billion tons of water each hour. It has been calculated that the Gulf Stream carries each hour 22 times as much water into the sea as all the water discharged by all the rivers of the world in a similar period. (U. S. Coast and Geodetic Survey, July 11, 1965.)

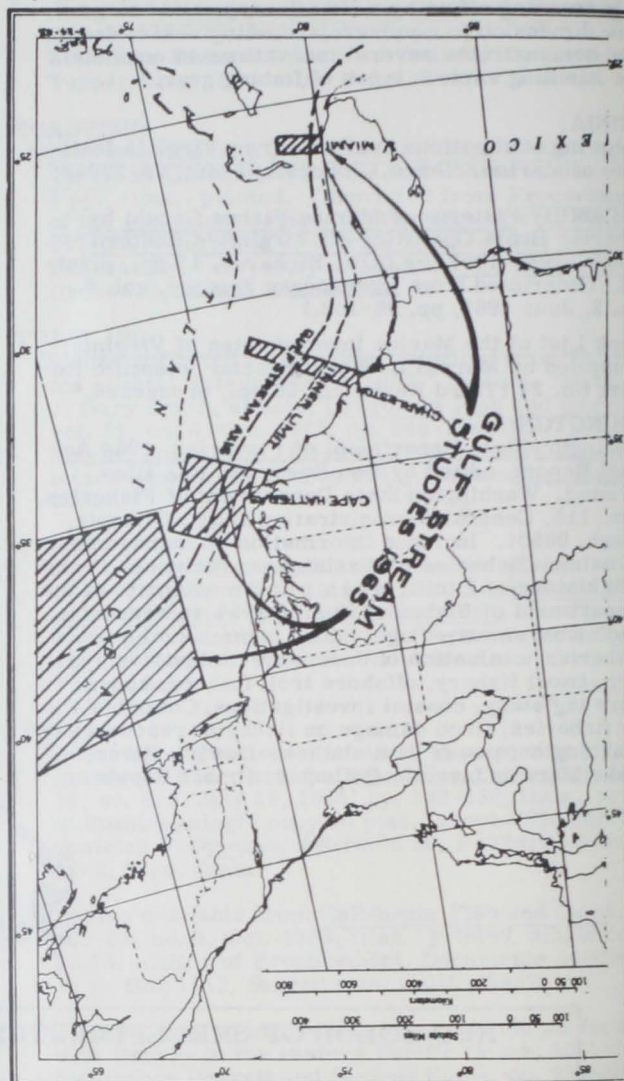


Fig. 2 - Shows area of Gulf Stream study.